Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

MINOR NOTICES.

A SECOND REPORT to the Evolution Committee of the Royal Society has been made by BATESON, SAUNDERS, PUNNETT, and HURST,[3] under the subtitle "Experimental studies in the physiology of heredity." About two-thirds of this report deals with plants and the rest with poultry. The plants used were Datura, Matthiola, *Salvia Horminum*, *Ranunculus arvensis*, Pisum, and *Lathyrus odoratus*, the most attention being given to Matthiola, Pisum, and Lathyrus. The numerous experiments present too many important details to permit of adequate review, but several features deserve special mention. In Matthiola it is found that two races which are constantly glabrous when pure-bred may, on crossing, produce hoary canescent offspring, and that in certain combinations this hoariness is coupled with purple flower-color, both the hoariness and the purple color being recognizable as atavistic characters. These reversions occur invariably when cream or white-flowered glabrous stocks are crossed with those of any other color; but the various sap-colors (e. g., purple, flesh, red, copper, etc.) crossed with each other conform strictly to Mendelian expectation in regard to hoariness, though with respect to color there is a complication introduced by the presence of the atavistic purple in addition to the two parental types. Very similar reversions and half-reversions are also found regularly in sweet peas. Generally white was found recessive to all sap-colors, and cream recessive to both white and the sap-colors, so that cream-colored sweet peas are always homozygous and can produce nothing but cream-colored offspring. With one exception, white crossed with any sap-color gave reversion in the first generation to purple or to "painted lady" (red bicolor). This occurrence of two reversionary types gives rise to complications which have not yet been well worked out.

Perhaps the most novel result is seen in the different behavior of two white-flowered strains known to the trade as "Emily Henderson" and distinguishable from each other only by the form of the pollen which is either long or round. The long pollen is generally characteristic of the various strains of sweet peas, while the round appears to be limited to this one strain of "Emily Henderson," and to the various dwarf sweet peas or "Cupids" which are believed to have sprung from it. When any pure-bred white-flowered strain having long pollen was crossed with any colored strain the first-generation hybrids were always purple. When white with round pollen was crossed with blue sap-colored, it likewise produced F_1, but when crossed with red sap-colored the first generation was always painted lady. When pure-bred white "long" was crossed with pure-bred white "round," the first generation hybrids were sometimes purple, sometimes painted lady. If, on the other hand, *extracted* whites are used, whether they have long or round pollen, no reversion takes place when they are crossed together, and F are all white-flowered.

---

[3] BATESON, W., SAUNDERS, Miss E. R., PUNNETT, R. C., and HURST, C. C., Reports to the Evolution Committee of the Royal Society. Report II. Experimental studies in the physiology of heredity. 8vo. pp. 154. London: Harrison & Sons. 1905.

This difference of behavior between pure-bred and extracted whites is suggestive of CASTLE'S[4] recently reported results with guinea-pigs, in which several white individuals showed the presence of latent black pigment by transmitting it to a certain proportion of their offspring. The whites extracted from the non-black members of these crosses proved to be pure albinos incapable of producing black offspring.—G. H. SHULL.

MACDOUGAL[5] has published, with the cooperation of A. M. VAIL, G. H. SHULL, and J. K. SMALL, some of the results of the study of Oenothera that have been made at the New York Botanical Garden. Thus far the attempt to find *O. Lamarckiana* in its native state has been unsuccessful, although herbarium and other records make it "fairly conclusive that it is a true and independent species, native to America." That this species has remained unchanged for over a hundred years is certain. *O. grandiflora*, *O. Lamarckiana*, and *O. argillicola* are more closely related to one another than any of them are to *O. biennis*. An expedition by S. M. TRACY undertaken for the purpose of the rediscovery of *O. grandiflora* was successful. *O. biennis*, as commonly understood, includes two or more elementary species, and *O. cruciata* embraces three such species. These facts make it evident that the resolution of a "species" into its elementary species is the first requisite for the study of mutation, casual field observations being almost worthless. Careful studies were made of hybrids of *O. Lamarckiana* with *O. cruciata* and *O. biennis*. The occurrence of known mutants, as *O. rubrinervis*, *O. albida*, *O. gigas*, etc., from a culture of *O. Lamarckiana* was observed, showing that the mutative period of the latter is still present, and that the same mutants may occur in diverse environments. Some hitherto unknown mutants were also observed. Results of statistical studies are set forth in some detail; while the mutants show great variability, there is yet a great gap between them and the parent form. A summary of this paper[6] is given in another place. —H. C. COWLES.

WHITE[7] has published a preliminary report on the Hymeniales of Connecticut, illustrated by half-tone reproductions of excellent photographs. The purpose of the report is to compile, so far as possible, a complete list of native species, with notes as to the characteristics of the genera.—J. M. C.

---

[4] CASTLE, W. E., Heredity of coat characters in guinea-pigs and rabbits. Papers of the Station for Experimental Evolution at Cold Spring Harbor, New York, no. 1. pp. 78, *pls. 6.* Washington: Carnegie Institution of Washington.

[5] MACDOUGAL, D. T., VAIL, A. M., SHULL, G. H., and SMALL, J. K., Mutants and hybrids of the Oenotheras. Pp. 57. *figs. 13. pls. 22.* Carnegie Institution of Washington, Publication No. 24. Washington, 1905.

[6] MACDOUGAL, D. T., Studies in organic evolution. Jour. N. Y. Bot. Gard **6**:27-36. 1905.

[7] WHITE, EDWARD ALBERT, A preliminary report on the Hymeniales of Connecticut. State Geol. and Nat. Hist. Survey, Bull. 3. pp. 81. *pls. 40.* 1905.

CLINTON[8] has described the fifty species of smuts known to occur in Connecticut, introducing the descriptions by a general account of the characters of the group. Numerous drawings and reproductions of photographs illustrate the paper.—J. M. C.

SCHAFFNER[9] and his associates have made an ecological study of a glacial lake near Columbus, Ohio. Many of the typical bog plants, such as sphagnum, are absent; but some, as Decodon, are present in abundance.—H. C. COWLES.

OSGOOD,[10] in an account of a reconnoissance in Alaska mainly concerned with birds and mammals, gives notes on the distribution of the more characteristic plants that will interest plant geographers.—H. C. COWLES.

NOTES FOR STUDENTS.

FAULL[11] has made a cytological investigation of the ascus, studying the origin of the asci from the ascogenous hyphae, and their nuclear divisions and spore formations in a number of hitherto uninvestigated Ascomycetes, particularly *Hydnobolites* sp., *Neotiella albocincta*, and *Sordaria finicola*. He has examined thirty-six species in order to determine how the ascus originates from the ascogenous hyphae. He finds numerous cases in which the ascus does not arise from the penultimate cell of the recurved tip of an ascogenous hypha, as described for various Discomycetes but not for mildews. MAIRE and GUILLIERMOND have fully described deviations from this type, and FAULL in his examination finds that such is invariably the case in only eleven species. The ascus may bud out from the penultimate cell, although occasionally the septum between it and the terminal cell is lacking. The absence of this wall cutting off a uninucleate terminal cell at the tip seems to be the most frequent departure from the conventional type, being well illustrated by *Genea hispidula*, in which form the wall is always wanting. In some forms the asci arise from the terminal cell of the ascogenous hyphae and in others apparently from any cell. In every case definitely determined, the uninucleate stage of the ascus arises by fusion of two nuclei, which may be daughter nuclei or sister nuclei, either before or after entering the ascus. Extranuclear granules, staining like nucleoli and evidently nutritive in character, were observed in the neighborhood of nuclei in the asci. The constant appearance of these bodies is a characteristic feature at different stages. Similar bodies were also observed in ripe spores.

---

[8] CLINTON, GEORGE PERKINS, The Ustilagineae, or smuts, of Connecticut. State Geol. and Nat. Hist. Survey, Bull. 5. pp. 45. *figs. 55.* 1905.

[9] SCHAFFNER, J. H., JENNINGS, O. E., and TYLER, F. J., Ecological study of Brush Lake. Proc. Ohio State Acad. Sci. 4:151–165. 1904.

[10] OSGOOD, W. H., A biological reconnoissance of the base of the Alaska Peninsula. Pp. 86. *pls. 5. maps 2.* North American Fauna No. 24. Washington. 1904.

[11] FAULL, J. H., Development of ascus and spore formation in Ascomycetes. Proc. Bos. Soc. Nat. Hist. 32:77–113. *pls. 7–11.* 1905.